

What's up with retaining walls?

From the Minnesota Department of Labor and Industry

Construction Codes and Licensing Division (CCLD) has received several questions regarding retaining walls and new requirements in the *2006 International Residential Code* (2006 IRC). The questions pertain to building permits requirements for retaining walls exceeding 24 inches in height and professional engineering requirements for those walls.

Minnesota Rules, Chapter 1300.0120, subp. 4, addresses work exempt from permit requirements. The current language will remain unchanged when the 2007 Minnesota State Building Code is adopted. This rule indicates “retaining walls that are not over four feet (1,219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II, or III-A liquids.” Thus, retaining walls less than four feet in height will remain exempt from building permits.

The *2006 International Residential Code*, Section R404.5, requires retaining walls (not building foundations) that are not laterally supported at the top and retain in excess of 24 inches (610 mm) of unbalanced fill to be “designed” to ensure stability against overturning, sliding, excessive foundation pressure and water uplift. It also requires retaining walls to be designed with a safety factor of 1.5 against lateral sliding and overturning.

The language, as written, does not specifically require professional engineering for retaining walls that retain in excess of 24 inches of unbalanced fill. Many retaining wall system manufacturers have designed their products using sound engineering practices and provide product manuals and specific installation instructions based on wall height, soil conditions and reinforcement requirements. These design manuals and installation instructions have been available in the past and CCLD anticipates they will continue to be available for retaining wall systems not over four feet in height.

The Minnesota Board of Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscience and Interior Design Rules, Chapter 1800.5400, provides additional direction. This rule indicates the responsible building official may require plans and specifications to be designed and prepared by a licensed architect or engineer if the official finds a hazard to life, health, safety or welfare due to unusual circumstances of the building or structure or an unusually large number of potential occupants in relation to square footage for a particular use. The CCLD opinion is retaining walls of less than four feet in height will not usually constitute a hazard to life, health, safety or welfare to occupants.

2006 IRC, Section R404.5, does not effectively change the current intent of the building code and is not intended to apply to building foundations.



To: MNLA Landscape and Hardscape Industry

Fr: Bob Fitch, MNLA Executive Director

Re: State Building Codes related to Retaining Walls

There has been a rumor that the state building codes are changing to require permits on retaining walls 2 feet or higher vs. the current 4 feet or higher.* THIS IS NOT TRUE! Representatives of the MNLA Hardscapes Committee recently met with officials at the Minnesota Department of Labor & Industry (DOLI) to clear up confusion that may be occurring because of changes to the International Residential Code. We have been working with the Construction Codes & Licensing Division since then to draft an acceptable explanation which was just finished by the agency yesterday which you see above.

The key phrase in the DOLI document included above is at the end of the second paragraph:

“... retaining walls less than four feet in height will remain exempt from building permits.”

The meeting between MNLA and the Department of Labor & Industry (DOLI) was very positive and has provided opportunities for further dialogue with the state and eventually with municipalities. MNLA seeks to improve the professionalism within our industry by educating contractors. The association believes this can be enhanced by fair and consistent permitting processes, building code enforcement, and inspections.

Attending the meeting on March 20th were:

- Dan Kelsey, Minnesota Department of Labor & Industry
- Rich Lockrem, Minnesota Department of Labor & Industry
- Bob Swanson, Meadwood Inc., MNLA Hardscapes Committee Chair
- Scott Frampton, Landscape Renovations Inc., MNLA Landscape Contractors Committee Chair
- Mitch Regal, Anchor Block Co.
- Bruce Baumann, Anchor Wall Systems
- Bob Fitch, MNLA Executive Director

*Currently, cities may institute permit or design requirements on retaining walls that are 4 feet or higher. For many residential retaining walls, cities are satisfied with cut sheets, standard specifications normally provided by manufacturers. The larger the wall, the more likely municipalities might require a professional engineer to be involved with the project. There are no changes to the state building code in this area. One side note: The state considers a “retaining wall” to be anything that holds back dirt, regardless of whether it’s a manufactured product, natural stone, or timber.